

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A method for generating a datastream at a control location for implementing an interactive television application at a viewer location, comprising:
 - receiving a first video signal constituting a primary image;
 - receiving a second video signal constituting a secondary image;
 - combining the first and second video signals to form a broadcast video signal representing a composite of the primary and secondary images;
 - receiving a specification of a predetermined location in at least one of the primary and secondary image as a specified portion of the composite image;
 - generating instructions to form an interactive television client application program which renders the specified portion of the composite image as a location for a sensitive area;[[and]]
 - generating instructions for a virtual channel to be displayed in said sensitive area, said virtual channel comprising a plurality of secondary screens, wherein the data for said screens is to be loaded into said screens from storage; and
 - outputting the instructions to form said interactive television client application, said virtual channel, and the broadcast video signal for transmission to a customer location.
2. (Original) A method as recited in claim 1 comprising combining the instructions with the broadcast video signal and outputting the combined signal for transmission to a customer location.
3. (Original) A method as recited in claim 1 wherein the primary image comprises a moving video image.
4. (Original) A method as recited in claim 1 wherein the secondary image comprises a static video image.
5. (Original) A method as recited in claim 1 wherein the interactive television client application program includes instructions for causing a broadcast receiver to render the

specified image portion as a first sensitive area to implement a desired interactive television operation.

6. (Original) A method as recited in claim 1 wherein the desired interactive television operation comprises displaying a supplement screen.

7. (Original) A method as recited in claim 6 wherein the desired interactive television operation comprises displaying a plurality of supplemental screens containing catalog information.

8. (Original) A method as recited in claim 7 wherein the desired interactive television operation comprises receiving a viewer input to initiate a purchase transaction corresponding to at least a part of the catalog information.

9. (Original) A method as recited in claim 1 wherein the generated instructions cause a broadcast receiver to render the specified image portion as an initial display while the interactive television client application program is being loaded into a memory of a broadcast receiver, prior to rendering the specified image portion as a first sensitive area.

10. (Original) A method as recited in claim 1 wherein the secondary image comprises an interactive advertising area and the generated instruction cause a broadcast receiver to render the interactive advertising area as an initial display while the interactive television client application program is being loaded into a memory of a broadcast receiver, and the interactive television client application program subsequently renders the interactive advertising area as a second sensitive area.

11. (Currently amended) A method for broadcasting an interactive television channel, comprising:

receiving a video signal component over a first communications channel, the video signal component comprising a first video signal constituting a primary video image and a second video signal constituting a secondary video image, and

receiving an instruction signal component comprising instructions to form an

interactive television client application program which defines a specified portion of a composite image as a location for a sensitive area; [[and]]

receiving instructions for a virtual channel to be displayed in said sensitive area, said virtual channel comprising a plurality of secondary screens, wherein the data for said screens is to be loaded into said screens from storage; and

transmitting a broadcast signal over a second communications channel to a plurality of viewer locations, the broadcast signal including video said signal component, said instructions for a virtual channel, and the instruction signal component.

12. (Previously presented) A method for generating a datastream at a control location for implementing an interactive television application at a viewer location, comprising:

receiving a first video signal constituting a primary image;
receiving a second video signal constituting a secondary image;
combining the first and second video signal to form a broadcast video signal representing a composite of the primary and secondary images;
receiving a specification of a predetermined location in at least one of the primary and secondary image as a specified portion of the composite image;
generating instructions to form an interactive television client application program which renders the specified portion of the composite image as a location for a sensitive area and which generates a first screen containing the primary and secondary images and, in response to viewer input, generates a virtual channel comprising plurality of secondary screens including the secondary video images, wherein the data for said screens is to be loaded into said screens from storage and;
outputting the instructions and the broadcast video signal for transmission to a customer location.

13. (Original) A method as recited in claim 12 comprising combining the instructions with the broadcast video signal and outputting the combined signal for transmission to a customer location.

14. (Original) A method for implementing an interactive television application at a viewer location, comprising:

- receiving a composite signal at the viewer location over a communication channel, the composite signal including video signals representing an image comprising a primary portion and a secondary portion, including instructions for generating a sensitive area, and signals representing data for a virtual channel display;

- processing the signals representing data and caching the data at the customer location;

- processing the video signal at the viewer location to generate the image;

- processing the interactive signal at the viewer location to generate a sensitive area on the image;

- receiving a viewer input selecting the sensitive area; and

- retrieving the cached data to generate a virtual channel video display which includes rendering the secondary portion visible.

15. (Original) A method for implementing an interactive television application at a viewer location, comprising:

- receiving a composite signal at the viewer location over a communications channel, the composite signal including:

- video signals representing an image comprising a primary portion and a secondary portion,

- instructions for generating at least first and second sensitive areas,

- signals representing data for at least first and second virtual channel displays

- processing the signals representing data and caching the data at the viewer location;

- processing the video signals at the viewer location to generate the image;

- executing the instructions at the viewer location to generate at least first and second sensitive area displays overlaid upon the image;

- receiving a viewer input selecting the first sensitive location;

- responding to selection of the first sensitive location by retrieving and processing cached data to generate a first virtual channel video display which includes rendering visible the secondary portion of the image;

- receiving a viewer input selecting the second sensitive location;

responding to selection of the second sensitive location by retrieving and processing cached data to generate a second virtual channel video display which includes rendering visible the secondary portion of the image.

16. (Original) A method for implementing an interactive television application at a viewer location, comprising:

receiving a composite signal at the viewer location over a communications channel, the composite signal including:

signals representing at least first and second enhanced video display screens, and signals including instructions for generating sensitive areas at specified locations on the first and second enhanced video display screens for receiving viewer purchase requests;

receiving viewer input specifying a first desired enhanced video display screen;

processing the video signals at the viewer location to generate a video display of the first desired enhanced video display screen;

processing the instructions at the viewer location to generate a first sensitive area display overlaid upon the video display at the specified screen location on the first desired enhanced video display screen;

receiving a viewer input selecting the first sensitive area to request a first purchase;

storing data specifying the first purchase request in a purchase buffer;

receiving viewer input specifying a second desired enhanced video display screen;

processing the video signals at the viewer location to generate a video display of the second desired enhanced video display screen;

processing the instructions at the viewer location to generate a second sensitive area display overlaid upon the video display at the specified screen location on the second desired enhanced video display screen;

receiving a viewer input selecting the second sensitive area to request a second purchase;

storing data specifying the second purchase request in the purchase buffer; responding to a viewer request by displaying data representing the first and second purchase requests stored in the purchase buffer;

displaying sensitive areas to receive one of a viewer request to cancel the first and

second purchases and a viewer request to execute the first and second purchases; and
generating purchase request signals if a viewer request to execute the purchases is received.

17. (Canceled)

18. (Currently amended) A method for generating a datastream at a control location for implementing an interactive television application at a viewer location, comprising:

receiving a composite video signal constituting an image;
defining a first specified portion of the image as a location for a first sensitive area;
generating first instructions for causing a broadcast receiver to render the first specified image portion as a first sensitive area to implement a first interactive television operation;
generating instructions for a first virtual channel to be displayed in said first sensitive area, said virtual channel comprising a plurality of secondary screens, wherein the data for said screens is to be loaded into said screens from storage;
defining a second specified portion of the image as a location for a second sensitive area; and
generating second instructions for selectively causing the broadcast receiver to render the second specified image portion as a second sensitive area to implement a second interactive television operation;
generating instructions for a second virtual channel to be displayed in said second sensitive area, said virtual channel comprising a plurality of secondary screens, wherein the data for said screens to be loaded into said screens from storage;
the first interactive television operation rendering the second sensitive area visible on a display screen and enabling the second instructions.

19. (Currently amended) A method for generating a datastream at a control location for implementing an interactive television application at a viewer location, comprising:

receiving a first video signal constituting a primary image;

receiving a second video signal constituting a secondary image;
combining the first and second video signals to form a broadcast video signal representing a composite of the primary and secondary images;
outputting the broadcast video signal for transmission to a customer location,
generating first instructions to form an interactive television client application program which renders a specified portion of the composite image as a location for a sensitive area;
receiving an operator input calling for expansion of display of the primary image so as to cover at least a part of the secondary image at a viewer location;
responding to the operator input by generating second instructions in the interactive television client application program to display the primary signal in a full-frame mode at the viewer location; outputting the first and second instructions to the viewer location.

20. (Original) A method as recited in claim 19 wherein the operator input includes a specific time for suppression of display of the secondary image at a viewer location.

21. (Original) A method for implementing an interactive television application at a viewer location, comprising:

receiving a composite signal at the viewer location over a communications channel, the composite signal including video signals representing an image comprising a primary portion and a secondary portion, an interactive signal including instructions for generating a plurality of sensitive areas, and signals representing data for a virtual channel display;

processing the signals representing data and storing the data at the customer location;
processing the video signal at the viewer location to generate the image;
processing the interactive signal at the viewer location to generate a first sensitive area on the image;

receiving a viewer input selecting the first sensitive area;
retrieving the stored data to generate a virtual channel video display which includes rendering the secondary portion visible;

processing the interactive signal at the viewer location to generate a second sensitive area on the image to receive viewer input of a customer I.D. number;

receiving a viewer input in the second sensitive area to store a customer I.D. number;
and

processing the interactive signal at the viewer location to initiate a purchase transaction using the customer I.D. number.

22. (Previously presented) A method as recited in claim 21, wherein the instructions generating the sensitive areas include category information, the customer I.D. number includes a permission level, and the stage of processing the interactive signal at the viewer location to initiate the purchase transaction using the customer I.D. number includes selectively executing the purchase transaction based on a comparison of the category information and the permission level.

23. (Original) A method for implementing an interactive television application at a viewer location, comprising:

receiving a composite signal at the viewer location over a communications channel, the composite signal including video signals representing an image and an interactive signal including instructions for generating a plurality of sensitive areas;

processing the video signal at the viewer location to generate the image;

processing the interactive signal at the viewer location to generate a first sensitive area on the image comprising an interactive ad display;

receiving a viewer input selecting the first sensitive area;

processing the interactive signal at the viewer location to generate a second sensitive area on the image to receive viewer input of a customer I.D. number;

receiving a viewer input in a second sensitive area to store a customer I.D. number;
and

processing the interactive signal at the viewer location to initiate an interactive ad activity using the customer I.D. number.

24. (Previously presented) A method as recited in claim 23, wherein the instructions generating the sensitive areas include category information, the customer I.D. number includes a permission level, and the stage of processing the interactive signal at the viewer location to initiate the interactive ad activity using the customer I.D. number includes

selectively executing the interactive ad activity based on a comparison of the category information and the permission level.

25. (Currently amended) A system for generating a datastream at a control location for implementing an interactive television application at a viewer location, comprising:

a video switcher which receives a first video signal constituting a primary image and a second video signal constituting a secondary image, combines the first and second video signals to form a broadcast video signal representing a composite of the primary and secondary images, and outputs the broadcast video signal for transmission to a customer location;

a content staging server which receives a specification of a predetermined location in at least one of the primary and secondary image as a specified portion of the composite image; and

an interactive TV server component coupled to the content staging server which generates instructions to form an interactive television client application program to render the specified portion of the composite image as a location for a sensitive area, said sensitive area including a virtual channel comprising a plurality of secondary screens and the data for said screens is to be loaded into said screens from storage and outputs the instructions for transmission to a viewer location.

26. (Original) A set-top box for implementing an interactive television application at a viewer location, comprising:

an input terminal for receiving a composite signal at the viewer location over a communications channel, the composite signal including video signals representing an image comprising a primary portion and a secondary portion, including instructions for generating a sensitive area, and signals representing data for a virtual channel display;

a processor coupled to the input terminal for processing the signals representing data and caching the data and for processing the interactive signal at the viewer location to generate a sensitive area on the image;

an audio-video output circuit coupled to the input terminal to process the video signal

and supply an audio-video output signal for output to a display device;
a remote control receiver circuit responsive to viewer inputs to highlight and select the sensitive area; and
the processor retrieving the cached data to generate a virtual channel video display which includes rendering the secondary portion visible.

27. (Original) A system for generating a datastream at a control location for implementing an interactive television application at a viewer location, comprising:

a video switcher which receives a first video signal constituting a primary image; and a second video signal constituting a secondary image, combines the first and second video signals to form a broadcast video signal representing a composite of the primary and secondary images, and outputs the broadcast video signal for transmission to a viewer location;

a content staging server which receives a specification of a predetermined location in at least one of the primary and secondary image as a specified portion of the composite image and which generates a command upon receipt of an operator input calling for expansion of display of the primary image so as to cover at least a part of the secondary image at a viewer location;

an interactive TV server component coupled to the content staging server which generates first instructions to form an interactive television client application program which renders a specified portion of the composite image as a location for a sensitive area and, in response to the command, generates second instructions in the interactive television client application program to display the primary signal in a full-frame mode at the viewer location, the interactive TV server component outputting the first and second instructions, signal for transmission to the viewer location.

28. (Previously presented) A method according to claim 1, wherein the outputting step includes the step of broadcasting the instructions and the video signal from a direct broadcast satellite.

29. (Previously presented) A method according to claim 11, wherein the transmitting step includes the step of transmitting the broadcast signal to set top boxes.

30. (Previously presented) A method according to claim 29, wherein the set top boxes include an integrated receiver-decoder and a processor supporting an interactive television runtime environment.

31. (Previously presented) A method according to claim 14, wherein the receiving step includes the step of using a set-top box to receive the composite signal, and the set-top box executes an interactive television application to process the composite signal.

32. (Previously presented) A method according to claim 31, wherein the set-top box includes a tuner/demodulator to receive the composite signal.

33. (Previously presented) A method according to claim 15, wherein the first channel video display includes an interactive advertising area.

34. (Previously presented) A method according to claim 15, wherein the first channel video display shows instructions for the viewer.

35. (Previously presented) A method according to claim 15, wherein the first channel video display includes an interactive area containing an initial welcome screen including instructions for operating interactive features.

36. (Previously presented) A method according to claim 16, further comprising the step of providing a customer identification number for the viewer location.

37. (Previously presented) A method according to claim 36, wherein the step of providing the customer identification number includes the step of providing a plurality of customer identification numbers for the viewer location.

38. (Previously presented) A method according to claim 37, wherein the identification numbers include a variety of permission levels.

39. (Currently amended) A method according to claim ~~[[17]]~~ 18, wherein the transmitting step includes the step of transmitting the composite broadcast data stream to a set-top box at the viewer location.

40. (Currently amended) A method according to claim ~~[[17]]~~ 18, wherein the step of defining the specified location as a location for a sensitive area includes the step of defining said location by implementing instructions contained in an interactive television client application program.

41. (Previously presented) A method according to claim 18, wherein the first instructions are contained in an interactive television client application program.

42. (Previously presented) A method according to claim 18, further comprising the step of inserting triggers into the broadcast signal to initiate desired changes.

43. (Previously presented) A method according to claim 42, wherein the desired changes include updates in the content being sent to the viewing audiences.